

*Please provide the following information, and submit to the NOAA DM Plan Repository.*

**Reference to Master DM Plan (if applicable)**

*As stated in Section IV, Requirement 1.3, DM Plans may be hierarchical. If this DM Plan inherits provisions from a higher-level DM Plan already submitted to the Repository, then this more-specific Plan only needs to provide information that differs from what was provided in the Master DM Plan.*

URL of higher-level DM Plan (if any) as submitted to DM Plan Repository:

**1. General Description of Data to be Managed****1.1. Name of the Data, data collection Project, or data-producing Program:**

NOAA ENC Direct to GIS

**1.2. Summary description of the data:**

NOAA's Electronic Navigational Charts (NOAA ENC's) have been developed to support the marine transportation infrastructure and coastal management. The NOAA ENC's are in S-57, a data standard developed by the International Hydrographic Organization (IHO) to be used for the exchange of digital hydrographic data. NOAA ENC's can be used in Geographic Information Systems, (GIS) allowing for broader public access. Many GIS's, however cannot read an ENC's native S-57 format to address this problem. NOAA's ENC Direct to GIS web portal provides comprehensive access to display, query, and download all available large scale NOAA ENC data in a variety of GIS/CAD formats for non-navigational purposes using Internet mapping service technology. Nautical chart features contained within an NOAA ENC provide a detailed representation of the U.S. coastal and marine environment. This data includes coastal topography, bathymetry, landmarks, geographic place names and marine boundaries. Features in an NOAA ENC are limited in that they only represent the geographic region that is depicted in that particular NOAA ENC. By aggregating nautical features from all NOAA ENC's in the creation of GIS data, a contiguous depiction of the U.S coastal and marine environment is achieved.

**1.3. Is this a one-time data collection, or an ongoing series of measurements?**

Ongoing series of measurements

**1.4. Actual or planned temporal coverage of the data:**

2001-07-11 to Present

**1.5. Actual or planned geographic coverage of the data:**

W: -179.43, E: 174.61, N: 65.67, S: 17.57

**1.6. Type(s) of data:**

*(e.g., digital numeric data, imagery, photographs, video, audio, database, tabular data, etc.)*  
map

**1.7. Data collection method(s):**

*(e.g., satellite, airplane, unmanned aerial system, radar, weather station, moored buoy, research vessel, autonomous underwater vehicle, animal tagging, manual surveys, enforcement activities, numerical model, etc.)*

**1.8. If data are from a NOAA Observing System of Record, indicate name of system:****1.8.1. If data are from another observing system, please specify:****2. Point of Contact for this Data Management Plan (author or maintainer)****2.1. Name:**

Patrick Keown

**2.2. Title:**

Metadata Contact

**2.3. Affiliation or facility:****2.4. E-mail address:**

patrick.keown@noaa.gov

**2.5. Phone number:**

240-533-0031

**3. Responsible Party for Data Management**

*Program Managers, or their designee, shall be responsible for assuring the proper management of the data produced by their Program. Please indicate the responsible party below.*

**3.1. Name:**

Patrick Keown

**3.2. Title:**

Data Steward

**4. Resources**

*Programs must identify resources within their own budget for managing the data they produce.*

**4.1. Have resources for management of these data been identified?****4.2. Approximate percentage of the budget for these data devoted to data management (specify percentage or "unknown"):****5. Data Lineage and Quality**

*NOAA has issued Information Quality Guidelines for ensuring and maximizing the quality, objectivity, utility, and integrity of information which it disseminates.*

**5.1. Processing workflow of the data from collection or acquisition to making it publicly accessible**

*(describe or provide URL of description):*

Process Steps:

- The NOAA ENC database has been built from a combination of charted information as well as original "source" information. NOAA has compiled critical features such as channel limits, aids to navigation, and obstructions from the original documents that were used to put the feature on the paper chart. The objective is to use the most accurate information for features that are critical to the safety of navigation. NOAA uses a number of sources in compiling NOAA ENCS including U.S. Army Corps of Engineers surveys, drawings, and permits, U.S. Coast Guard Local Notices to Mariner, National Geospatial-Intelligence Agency Notices to Mariners, NOAA hydrographic surveys, and the largest scale paper chart of an area. ENC Direct to GIS data was created by transforming Approach and Harbor NOAA ENC version 2 cells to ESRI's ArcSDE format using Safe Software's Feature Manipulation Engine.

**5.1.1. If data at different stages of the workflow, or products derived from these data, are subject to a separate data management plan, provide reference to other plan:**

**5.2. Quality control procedures employed (describe or provide URL of description):**

**6. Data Documentation**

*The EDMC Data Documentation Procedural Directive requires that NOAA data be well documented, specifies the use of ISO 19115 and related standards for documentation of new data, and provides links to resources and tools for metadata creation and validation.*

**6.1. Does metadata comply with EDMC Data Documentation directive?**

No

**6.1.1. If metadata are non-existent or non-compliant, please explain:**

Missing/invalid information:

- 1.7. Data collection method(s)
- 4.1. Have resources for management of these data been identified?
- 4.2. Approximate percentage of the budget for these data devoted to data management
- 5.2. Quality control procedures employed
- 7.1. Do these data comply with the Data Access directive?
- 7.1.1. If data are not available or has limitations, has a Waiver been filed?
- 7.1.2. If there are limitations to data access, describe how data are protected

- 7.4. Approximate delay between data collection and dissemination
- 8.1. Actual or planned long-term data archive location
- 8.3. Approximate delay between data collection and submission to an archive facility
- 8.4. How will the data be protected from accidental or malicious modification or deletion prior to receipt by the archive?

**6.2. Name of organization or facility providing metadata hosting:**

NMFS Office of Science and Technology

**6.2.1. If service is needed for metadata hosting, please indicate:**

**6.3. URL of metadata folder or data catalog, if known:**

<https://www.fisheries.noaa.gov/inport/item/39973>

**6.4. Process for producing and maintaining metadata**

*(describe or provide URL of description):*

Metadata produced and maintained in accordance with the NOAA Data Documentation Procedural Directive: [https://nosc.noaa.gov/EDMC/DAARWG/docs/EDMC\\_PD-Data\\_Documentation\\_v1.pdf](https://nosc.noaa.gov/EDMC/DAARWG/docs/EDMC_PD-Data_Documentation_v1.pdf)

**7. Data Access**

*NAO 212-15 states that access to environmental data may only be restricted when distribution is explicitly limited by law, regulation, policy (such as those applicable to personally identifiable information or protected critical infrastructure information or proprietary trade information) or by security requirements. The EDMC Data Access Procedural Directive contains specific guidance, recommends the use of open-standard, interoperable, non-proprietary web services, provides information about resources and tools to enable data access, and includes a Waiver to be submitted to justify any approach other than full, unrestricted public access.*

**7.1. Do these data comply with the Data Access directive?**

**7.1.1. If the data are not to be made available to the public at all, or with limitations, has a Waiver (Appendix A of Data Access directive) been filed?**

**7.1.2. If there are limitations to public data access, describe how data are protected from unauthorized access or disclosure:**

**7.2. Name of organization of facility providing data access:**

Office of Coast Survey (OCS)

**7.2.1. If data hosting service is needed, please indicate:**

**7.2.2. URL of data access service, if known:**

<http://encdirect.noaa.gov/>  
[http://encdirect.noaa.gov/arcgis/services/encdirect/enc\\_approach/MapServer/KmlServer](http://encdirect.noaa.gov/arcgis/services/encdirect/enc_approach/MapServer/KmlServer)  
[http://encdirect.noaa.gov/arcgis/services/encdirect/enc\\_approach/MapServer/WmsServer?version=1.3.0](http://encdirect.noaa.gov/arcgis/services/encdirect/enc_approach/MapServer/WmsServer?version=1.3.0)  
[http://encdirect.noaa.gov/arcgis/services/encdirect/enc\\_berthing/MapServer/KmlServer](http://encdirect.noaa.gov/arcgis/services/encdirect/enc_berthing/MapServer/KmlServer)  
[http://encdirect.noaa.gov/arcgis/services/encdirect/enc\\_berthing/MapServer/WmsServer?version=1.3.0](http://encdirect.noaa.gov/arcgis/services/encdirect/enc_berthing/MapServer/WmsServer?version=1.3.0)  
[http://encdirect.noaa.gov/arcgis/services/encdirect/enc\\_coastal/MapServer/KmlServer](http://encdirect.noaa.gov/arcgis/services/encdirect/enc_coastal/MapServer/KmlServer)  
[http://encdirect.noaa.gov/arcgis/services/encdirect/enc\\_coastal/MapServer/WmsServer?version=1.3.0](http://encdirect.noaa.gov/arcgis/services/encdirect/enc_coastal/MapServer/WmsServer?version=1.3.0)  
[http://encdirect.noaa.gov/arcgis/services/encdirect/enc\\_general/MapServer/KmlServer](http://encdirect.noaa.gov/arcgis/services/encdirect/enc_general/MapServer/KmlServer)  
[http://encdirect.noaa.gov/arcgis/services/encdirect/enc\\_general/MapServer/WmsServer?version=1.3.0](http://encdirect.noaa.gov/arcgis/services/encdirect/enc_general/MapServer/WmsServer?version=1.3.0)  
[http://encdirect.noaa.gov/arcgis/services/encdirect/enc\\_harbour/MapServer/KmlServer](http://encdirect.noaa.gov/arcgis/services/encdirect/enc_harbour/MapServer/KmlServer)  
[http://encdirect.noaa.gov/arcgis/services/encdirect/enc\\_harbour/MapServer/WmsServer?version=1.3.0](http://encdirect.noaa.gov/arcgis/services/encdirect/enc_harbour/MapServer/WmsServer?version=1.3.0)  
[http://encdirect.noaa.gov/arcgis/services/encdirect/enc\\_overview/MapServer/KmlServer](http://encdirect.noaa.gov/arcgis/services/encdirect/enc_overview/MapServer/KmlServer)  
[http://encdirect.noaa.gov/arcgis/services/encdirect/enc\\_overview/MapServer/WmsServer?version=1.3.0](http://encdirect.noaa.gov/arcgis/services/encdirect/enc_overview/MapServer/WmsServer?version=1.3.0)  
[https://encdirect.noaa.gov/arcgis/rest/services/encdirect/enc\\_approach/MapServer](https://encdirect.noaa.gov/arcgis/rest/services/encdirect/enc_approach/MapServer)  
[https://encdirect.noaa.gov/arcgis/rest/services/encdirect/enc\\_berthing/MapServer](https://encdirect.noaa.gov/arcgis/rest/services/encdirect/enc_berthing/MapServer)  
[https://encdirect.noaa.gov/arcgis/rest/services/encdirect/enc\\_coastal/MapServer](https://encdirect.noaa.gov/arcgis/rest/services/encdirect/enc_coastal/MapServer)  
[https://encdirect.noaa.gov/arcgis/rest/services/encdirect/enc\\_coverage/MapServer](https://encdirect.noaa.gov/arcgis/rest/services/encdirect/enc_coverage/MapServer)  
[https://encdirect.noaa.gov/arcgis/rest/services/encdirect/enc\\_general/MapServer](https://encdirect.noaa.gov/arcgis/rest/services/encdirect/enc_general/MapServer)  
[https://encdirect.noaa.gov/arcgis/rest/services/encdirect/enc\\_gp\\_approach/GPServer](https://encdirect.noaa.gov/arcgis/rest/services/encdirect/enc_gp_approach/GPServer)  
[https://encdirect.noaa.gov/arcgis/rest/services/encdirect/enc\\_gp\\_berthing/GPServer](https://encdirect.noaa.gov/arcgis/rest/services/encdirect/enc_gp_berthing/GPServer)  
[https://encdirect.noaa.gov/arcgis/rest/services/encdirect/enc\\_gp\\_coastal/GPServer](https://encdirect.noaa.gov/arcgis/rest/services/encdirect/enc_gp_coastal/GPServer)  
[https://encdirect.noaa.gov/arcgis/rest/services/encdirect/enc\\_gp\\_general/GPServer](https://encdirect.noaa.gov/arcgis/rest/services/encdirect/enc_gp_general/GPServer)  
[https://encdirect.noaa.gov/arcgis/rest/services/encdirect/enc\\_gp\\_harbour/GPServer](https://encdirect.noaa.gov/arcgis/rest/services/encdirect/enc_gp_harbour/GPServer)  
[https://encdirect.noaa.gov/arcgis/rest/services/encdirect/enc\\_gp\\_overview/GPServer](https://encdirect.noaa.gov/arcgis/rest/services/encdirect/enc_gp_overview/GPServer)  
[https://encdirect.noaa.gov/arcgis/rest/services/encdirect/enc\\_harbour/MapServer](https://encdirect.noaa.gov/arcgis/rest/services/encdirect/enc_harbour/MapServer)  
[https://encdirect.noaa.gov/arcgis/rest/services/encdirect/enc\\_overview/MapServer](https://encdirect.noaa.gov/arcgis/rest/services/encdirect/enc_overview/MapServer)

### 7.3. Data access methods or services offered:

REST URL for KML Services is dependent on resolution scale.; REST URL for WMS is dependent on resolution scale.; REST URL for Geoprocessing Services is dependent on resolution scale.; REST URL for Map Services is dependent on resolution scale.;

### 7.4. Approximate delay between data collection and dissemination:

**7.4.1. If delay is longer than latency of automated processing, indicate under what authority data access is delayed:**

## 8. Data Preservation and Protection

*The NOAA Procedure for Scientific Records Appraisal and Archive Approval describes how to identify, appraise and decide what scientific records are to be preserved in a NOAA archive.*

### 8.1. Actual or planned long-term data archive location:

*(Specify NCEI-MD, NCEI-CO, NCEI-NC, NCEI-MS, World Data Center (WDC) facility, Other, To Be Determined, Unable to Archive, or No Archiving Intended)*

**8.1.1. If World Data Center or Other, specify:**

**8.1.2. If To Be Determined, Unable to Archive or No Archiving Intended, explain:**

**8.2. Data storage facility prior to being sent to an archive facility (if any):**

Office of Coast Survey - Silver Spring, MD

**8.3. Approximate delay between data collection and submission to an archive facility:**

**8.4. How will the data be protected from accidental or malicious modification or deletion prior to receipt by the archive?**

*Discuss data back-up, disaster recovery/contingency planning, and off-site data storage relevant to the data collection*

## **9. Additional Line Office or Staff Office Questions**

*Line and Staff Offices may extend this template by inserting additional questions in this section.*